

AMENDMENTS TO THE CLAIMS

1. (Original) A sensor assembly for use in a vehicle seat cushion for detecting the presence of an occupant, said assembly comprising:

- a first member defining an internal bore;
- a second member having a portion slidably disposed in said bore such that said first member is movably mounted relative to said first member about an axis;
- a spring biasing said first member relative to said second member; and
- a sensor device mounted in one of said first and second members.

Claims 2-16 (Cancelled)

17. (New) A sensor assembly for use in a vehicle seat cushion for detecting the presence of an occupant, said assembly comprising:

- a first member defining an opening;
- a second member having a portion slidably disposed in said opening such that said second member is movably mounted relative to said first member along a predetermined path;
- a spring housed at least in part in said opening, said spring biasing said first member relative to said second member; and
- a sensor device mounted to detect relative movement between said first and second members.

18. (New) The assembly of claim 17 further including a magnet mounted in one of said first and second members.

19. (New) The assembly of claim 18, wherein said sensor device is a hall effect sensor mounted relative to the other one of said first and second member and at a spaced position relative to said magnet, and wherein movement of said first member relative to said second member causes said hall effect sensor to detect the change in position of said magnet.

20. (New) The assembly of claim 17, wherein said spring biases said first member relative to said second member in a direction parallel to said predetermined path.

21. (New) The assembly of claim 17, wherein said spring is a coil spring.

22. (New) The assembly of claim 17, wherein said first member defines a stepped bore having a first internal diameter portion and a second internal diameter portion having a diameter less than the diameter of said first internal diameter portion, said stepped bore defining a shoulder between said first and second internal diameter portions, and wherein said portion of said second member includes an outwardly radially extending lip which is engageable with said shoulder to function as a stop to prevent movement of said first member relative to said second member.

23. (New) The assembly of claim 22, wherein said second member defines a first external diameter portion slidably disposed adjacent said first internal diameter portion, and wherein said second member defines a second external diameter portion slidably disposed adjacent said second internal diameter portion.

24. (New) The assembly of claim 22, wherein said spring biases said lip against said shoulder.

25. (New) The assembly of claim 17, wherein one of said first and second members is adapted to be mounted on a sensor mat, and wherein said sensor device is mounted on said sensor mat.

26. (New) The assembly of claim 25 further including a magnet mounted on one of said first and second members, and wherein said sensor device is a hall effect sensor mounted relative to the other one of said first and second member and at a spaced position relative to said magnet such that movement of said first member relative to said second member causes said hall effect sensor to detect the position of said magnet.

27. (New) The assembly of claim 17, wherein said first and second members define a spring chamber sized to accommodate different springs having differing spring constants.

28. (New) The assembly of claim 17, wherein said second member defines an opening, and wherein said spring is housed in said openings of said first and second members.

29. (New) The assembly of claim 17, wherein said opening of said first member is defined by a cylindrical bore.

30. (New) A sensor mat assembly for use in a vehicle seat cushion for detecting the presence of an occupant, said assembly comprising:

a mat;

a first sensor assembly mounted at a first predetermined location on said mat, and a second sensor assembly mounted at a second predetermined location on said mat, each of said sensor assemblies including:

a first member;

a second member movably mounted relative to said first member along a predetermined path; and

a spring biasing said first member relative to said second member; and

a sensor device to detect relative movement between respective first and second members,

wherein the spring constant of said spring of said first sensor assembly is different from the spring constant of said spring of said second sensor assembly.

31. (New) The assembly of claim 30, wherein each of said sensor assemblies includes a magnet mounted on one of said first and second members.

32. (New) The assembly of claim 30, wherein each of said first members define an opening, and wherein said spring of each of said sensor assemblies is housed at least in part of said opening.

33. (New) The assembly of claim 30, wherein said sensor device of each of said sensor assemblies is a hall effect sensor.

34. (New) A sensor mat assembly for use in a vehicle seat cushion for detecting the presence of an occupant, said assembly comprising:

- a mat;

- a first sensor assembly mounted at a first predetermined location on said mat, and a second sensor assembly mounted at a second predetermined location on said mat, each of said sensor assemblies including:

- a first member;

- a second member movably mounted relative to said first member along a predetermined path;

- a magnet mounted on one of said first and second members; and

- a sensor device mounted to detect the position of said magnet,

- wherein the gauss characteristic of said magnet of said first sensor assembly is different from the gauss characteristic of said magnet of said second sensor assembly.

35. (New) The assembly of claim 34, wherein each of said sensor assemblies includes a spring biasing said first member relative to said second member.

36. (New) The assembly of claim 35, wherein each of said first members define an opening, and wherein said spring of each of said first and second sensor assemblies is housed at least in part of said opening.